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ABSTRACT

This report presents regional information concerning projections of post-high school level labor force supply and demand, and assessments of supply, demand, and educational considerations pertaining to particular professional fields of current concern. The study looks first at the national situation, and then narrows its focus to the U.S. South. It concludes that if college students continue to choose educational careers at the current rate, the labor force will be unable to absorb the demand, and the students will have to look elsewhere for employment. The report offers several regional policy directions including transmitting information to college students on the staffing outlook in the teaching profession, and suggesting that higher education institutions consider the concept of "career alternatives" which would prepare students for two or more career options. The report includes statistical tables analyzing the current classroom teacher demand, future projections, and a reference list. (JS)

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The Market for Teachers in the Nation and the Southern Region

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Contents

	Page
Foreword	v
Preface	vii
The National Situation	1
The Southern Region	13
Conclusions	21
Bibliography	25

Foreword

The Manpower and Education project of the Southern Regional Education Board aims to provide regional information of two kinds: (1) comprehensive projections of post-high school level labor force supply and demand, and (2) assessments of supply, demand and educational considerations pertaining to particular professional fields of current concern.

The training of elementary and secondary teachers will continue to be a primary function of higher education. During a period when the overall demand for teachers must necessarily fall, because of substantial declines in the birth rate, it is imperative that the teacher output of the colleges and universities be related to the specific needs which can be identified in the changing market for teachers.

This analysis by Arthur H. Padilla, General Administration, University of North Carolina, financed in part by funds made available through a grant from the Exxon Education Foundation, should serve to assist in decision-making on the part of agency and institutional planners as well as by those who have responsibilities for career guidance.

Winfred L. Godwin
President

Preface

In 1949, Seymour E. Harris wrote:

> . . . A large proportion of the potential college students within the next twenty years are doomed to disappointment after graduation, as the number of coveted openings will be substantially less than the numbers seeking them. . . There are already signs of the gains of the non-educated. The future threatens negative material rewards for the educated and especially for graduates of institutions of higher learning. [1]

Harris estimated that in 1940, 70 percent of all employed college graduates were in professional and related occupations, and assumed that 70 percent of future graduates would seek similar professional employment. If forced into other occupations by an increasing number of graduates, the "surplus" would have to settle for lower status jobs and would become dissatisfied and underemployed. What Harris did not see, it is now clear, was the growing acceptance of college as preparation for a large variety of occupations outside the professions. Indeed, in the introduction to the 1970 edition of the same book, Harris wrote:

> It is now about twenty-one years since I wrote the *Market for College Graduates*. At that time, I was concerned over the increasing flow or flood of college trained men and women in relation to the expected rise of new openings for the college educated. . . We have now had twenty-one years to appraise the occupational crisis. There is no doubt but that the flow of high level openings has exceeded the estimates of the late 194 's. [2]

Harris' experience with manpower projections points to two caveats which must be kept in mind regarding forecasts. The first has to do with the fact that forecasting, despite the complex and sophisticated methods and models which have been developed recently, remains an art, not a science. Secondly, forecasts are generally treated as if they had no impact upon what actually happens to the event being predicted. In some instances, however, the forecasts themselves may affect the future value of the predicted variable. When this occurs, the forecast is said to be subject to prediction feedback. For example, students may hesitate to enter a field of study even though the demand is reportedly good, because they may feel that by the time the training period is finished they will not be able to obtain an acceptable job. These feedbacks should be incorporated into the forecasts, since without doing so they may actually frustrate intended policy.

In Chapter I of this report, the national situation regarding the supply and demand of elementary and secondary teachers is analyzed. Chapter II discusses the teacher supply and demand conditions for the SREB region, although not to the level of detail of Chapter I. Chapter III extends some of the ramifications of the first two chapters and concludes with some recommendations for decision-makers at all levels.

Chapter I
THE NATIONAL SITUATION

BACKGROUND

The widely publicized early 1960's "shortage" of elementary and secondary teachers, the largest professional group in the United States, came to an abrupt end at the conclusion of the 1960's. By April 1970, the *Monthly Labor Review,* of the U.S. Department of Labor, had announced that:

> The aggregate supply (of elementary and secondary teachers) is expected to significantly exceed demand if recent entry patterns into the occupation continue.

According to their estimates at that time, 4.2 million teachers would enter the market during the 1970's, while only 2.4 million new openings would appear during that time period.

Similarly, annual surveys conducted by the National Education Association[3] showed a drastic reversal between 1969 and 1971 in the number of states indicating that they were witnessing a "substantial excess of applicants."

DEMOGRAPHIC ASPECTS AND ENROLLMENT TRENDS

The basic reason for this rather sudden abundance of teachers is of course demographic. The increases in the number of births after World War II, specifically between 1946 and 1957, coupled with rising incomes and aspirational levels of the population, led to the booming college enrollments of the 1960's. This, in turn, became translated into the largest production of college graduates in the history of this country. The total number of bachelor's degrees awarded decreased by 18,000 between 1950 and 1962, but doubled, from 414,275 to 827,234, between 1962 and 1970.[4] This explosion was also true in the number of college graduates prepared to teach in elementary and secondary schools, as the number graduated from those fields increased from 142,000 in 1962 to 296,000 in 1970.[5] These trends are shown in Table 1.

Thus, the overall trends of Table 1 show significant increases in the number of those trained to teach in the elementary and secondary schools, although they also show actual decreases in the number being trained between 1971 and 1973. The latter can be explained as student reaction to, *inter alia,* supply and demand forces in the teaching labor market.

Concurrently, the decline in birth rates of recent years (precipitated in the main, by more efficient birth control methods and changing attitudes towards family size) has resulted in enrollment decreases in elementary and secondary schools. It is significant that U.S.O.E. lowered its projections of total enrollment for 1980 (K through 12) by five million

Table 1

Bachelor's Degrees Conferred, Total and by Elementary and Secondary Teaching, 1950 to 1973

	1950	1960	1962	1968	1970	1971	1972	1973 (est.)
Total Bachelor's Degrees	432,058	389,183	414,275	666,710	827,234	877,676	921,200	980,800
(% change over previous year)		(-9.9%)	(6.4%)	(60.9%)	(24.1%)	(6.1%)	(5.0%)	(6.5%)
Total Prepared to Teach in Elementary Schools	28,587	52,630	57,854	91,336	109,265	123,055	123,249	116,462
(% change over previous year)		(84.1%)	(9.9%)	(57.9%)	(19.6%)	(12.6%)	(0.2%)	(-5.5%)
Total Prepared to Teach in Secondary Schools	86,890	77,573	84,489	143,611	176,751	192,536	196,265	192,548
(% change over previous year)		(10.7%)	(8.9%)	(70.0%)	(23.1%)	(8.9%)	(1.9%)	(-1.9%)

Source: *Research on Teacher Supply and Demand in Public Schools, 1973, op. cit.*

or 10 percent, between 1970 and 1973.[6] This indicates that births have been declining at a rate faster than anticipated and that enrollments will therefore be lower than expected a few years back.

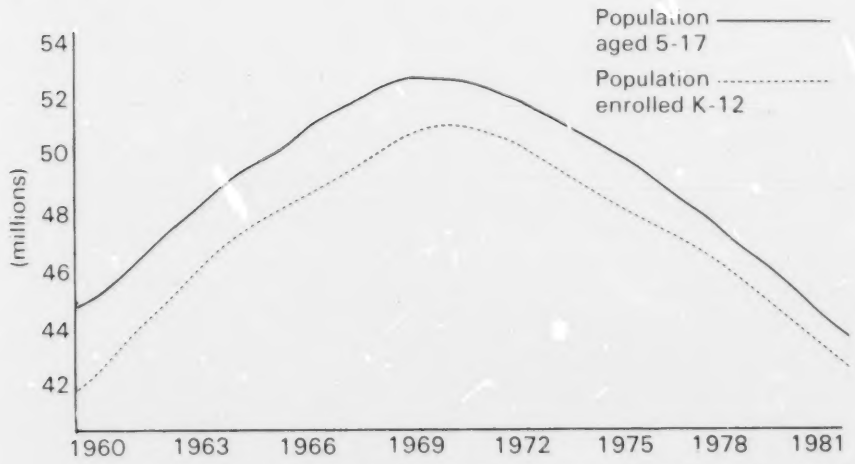
Student enrollment in public and non-public elementary and secondary schools increased by 22 percent in the 1960's. Secondary enrollment increased by 43 percent while elementary enrollment rose by 15 percent. Enrollment at the secondary level is expected to reach its maximum level around 1975, as shown in Figure 1. This is because birth rates were quite high, relatively, during the 1950's and early 1960's (they actually peaked in 1957) and the secondary enrollment will reflect those high rates. After 1975, however, secondary enrollment will decline monotonically, mirroring the distinctly lower birth rates since the mid-1960's.

Enrollment at the elementary level has been declining since 1970 and it is expected to continue to do so throughout the 1980's. In fact, elementary enrollment in 1982 is expected to be about the same as in 1960, or over two decades earlier.

Along the same lines, schoolage population (those between the ages of 5 and 17, inclusive) is expected to decline over the next 10 to 15 years or more, (see Figure 1). This will affect school enrollments, as the ratio of total enrollment to schoolage population is already quite high (.98) and cannot increase considerably more. By 1982, for instance, the 5-17 population is expected to be about one million less than it was in 1960, and about seven million less than in 1972. Correspondingly, enrollment will decline through the 1970's and 1980's.

Figure 1

U.S. School-Age Population and Total Enrollment, 1960-1982



Source: USOE, HEW, *Projections of Educational Statistics to 1982-83* (actual through 1972)

TEACHER SUPPLY AND DEMAND

Before analyzing in detail the national supply and demand trends, it would be useful to define some concepts. Demand and need, as used throughout this analysis, are not the same. Some may say, for instance, that the U.S. *demands* too much chemical warfare research relative to the *need* for such controversial research. Demand refers to the existence of places and funds to employ persons. Need will be used in the social sense of the predicted number which would be required to accomplish a given goal or ideal. Supply will mean the number available, from a variety of sources, to fill vacant slots. Since no mention of wages will be made, supply and demand will be quasi-economic concepts. If the relative wage of teachers changes from present levels, quantities of teachers supplied and demanded would be affected. For example, if teachers' wages decline relative to that of other workers, less services will be supplied by teachers (who will likely shift to other jobs), and more will be demanded by employers (who would have to pay relatively less for the same services). Consequently, it is assumed that the relative wage of teachers will remain unchanged in the future.

Also, any discussion of surpluses and shortages in this paper will abstract from the full economic meaning of those terms. When one talks about, for example, a shortage of housing, one is generally thinking of housing within some price range. (There *is* a shortage of $100 per month, three-bedroom apartments, with sauna, in East side Manhattan, but there is an adequate number of such units at $1,500 per month.) Thus, discussions concerning surpluses or shortages will refer to imbalances in demand and supply, as defined above.

Trends in the actual number of elementary and secondary teachers employed in the U.S. school systems shed much light on present and future supply-demand balance. Similarly, student-teacher ratios are quite helpful in estimating future teacher demand, particularly if these ratios are stable over time.

Changes in the number of U.S. elementary and secondary teachers employed are shown in Figure 2. The rate of annual growth in teachers' employment is decreasing. During the early 1960's total teacher employment grew by about 23 percent, whereas it increased by about 18 percent during the second half of the 1960's. The number of elementary teachers employed in 1972 was 27 percent greater than that in 1961, while the number of secondary teachers increased 61 percent over the same time period. As was the case for the total system, the rate of annual increase in employment in each category was greater during the first half of the 1960's than during the second half.

Student-teacher ratios (as shown in Table 2) for the public system have fallen over the 1960's. These ratios, however, have been stable or predictable from year to year and have not decreased substantially in recent years. This would indicate that, *ceteris paribus*, the ratios will not change considerably in the future. Projections of future teacher demand reflect this downward inflexibility of the ratios. By 1982, total teacher demand or employment will be only slightly greater (3,000 more teachers) than

teacher employment in 1969. Demand for elementary teachers reached a peak in 1970, and is expected to decline through 1980, reflecting, partially, the lower schoolage population expected in the future, and also, the shift of public seventh and eighth grade pupils from elementary to secondary junior high schools. The figures indicate a small increase in elementary teacher demand in the early 1980's (1980-1982), although 1970 levels are not expected to be reached. This is explained by the temporary leveling of fertility rates around 1970.

As implied above, the downward rigidity of the student-teacher ratio suggests (at least) two things:

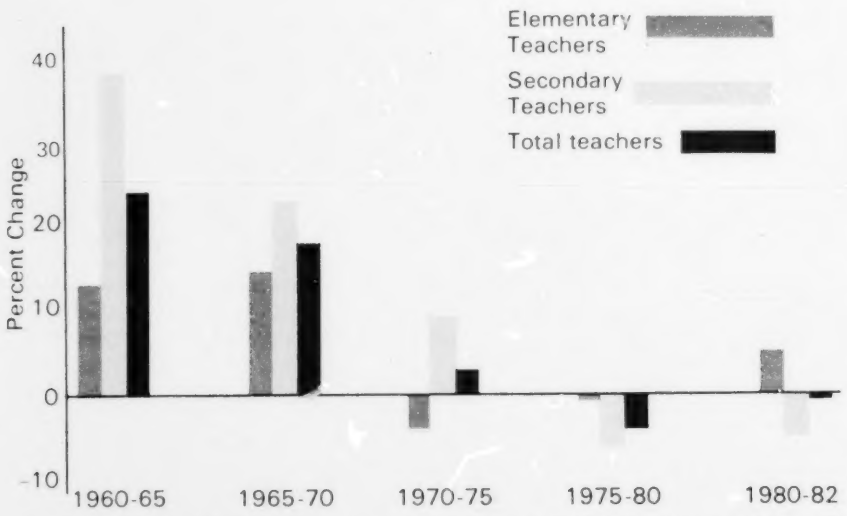
1) Lack of reduction in this ratio will necessarily mean a decreased demand for teachers, given predicted enrollment trends for the 1970's.

2) Further reduction in the ratio seems unlikely, given current and expected economic conditions and public sentiment about taxation.

The future behavior of student-teacher ratios, then, is quite important. If the student-teacher ratio *could* be reduced drastically, the current talk of a surplus of teachers would be unjustified. The likelihood of such a reduction in view of current inflation rates (which are not expected to decrease substantially before 1976) and of public disappointment with taxation, is not very high.

Figure 2

Changes in Numbers of Teachers Employed in U.S., 1960-1982



Sources: U.S. Office of Education, *Projections of Educational Statistics to 1980-81* and *Projections of Educational Statistics to 1982-83* (actual through 1970).

Table 2

Pupil-Teacher Ratios in Public Elementary and Secondary Schools in the U.S., 1962 to 1982

Year (Fall)	Elementary	Secondary
1962	28.5	21.7
1963	28.4	21.5
1964	27.9	21.5
1965	27.6	20.8
1966	27.0	20.4
1967	26.3	20.3
1968	25.4	20.5
1969	24.8	20.0
1970	24.3	19.8
1971	24.9	19.3
1972	24.4	18.9
1973	24.1	18.7
1974	23.8	18.6
1975	23.5	18.5
1976	23.2	18.3
1977	23.0	18.2
1978	22.7	18.1
1979	22.5	18.0
1980	22.3	17.8
1981	22.1	17.7
1982	22.0	17.6

Source: *Projections of Educational Statistics, op. cit.*, p. 66.

NATIONAL DEMAND FOR NEW TEACHERS

If the concept of "additional or new teachers" can be defined to include those elementary and secondary teachers hired in a given year (say, year "t") *not* employed in schools the previous year (or year "t-1"), then the demand for additional (or new) teachers can be partitioned three ways:

1) demand resulting from teacher turnover, or replacement requirements;

2) demand resulting from enrollment growth;

3) demand resulting from new programs and from student-teacher ratio changes.

In the past, replacement demand for teachers who have retired, died, or otherwise left the teaching profession has been about 65 percent of the total *new* demand annually or about 8 percent of the *total* annual demand

(see Table 3). For example, in 1972, total new demand was 204,000, of which 173,000 was for teacher replacement. And 173,000 is roughly 8 percent of *total* demand in 1972.

Turnover has been high relative to other professions because of the large number of women employed, and their work habits.[7] Moreover, since industries that employ a large portion of women typically pay low wages, the male turnover rate in teaching has also been quite high.

The additional or new demand for teachers created by new educational programs is, in a word, uncertain. An unanticipated policy change can cause great fluctuations in the new demand component. For example, what would be the effect on teacher demand if the compulsory attendance age-range of students is narrowed? Or, what would be the effect of a state-supported nursery program? These questions, generally, cannot be answered precisely without further information.

During the 1960's new college graduates (who graduated the previous school year, or who graduated in other years, but have never taught) have filled about 75 percent of the *new* demand each year. The remaining 25 percent has been filled annually by experienced returnees (former teachers not employed the preceding year). Thus, the new demand of 204,000 in 1972 was filled by about 153,000 *new* college graduates and 51,000 experienced returnees. The total *new* demand is expected to be 171,000 in 1982, or 33,000 less than in 1972. Accordingly, the positions to be filled by new college graduates will fall from 152,700 in 1972 to an estimated 128,300 in 1979.

NATIONAL SUPPLY OF TEACHERS

The potential supply of entrants to the teaching profession is a variable concept. Quantification of the stock of teachers at a point in time is difficult because of the numbers of married women employed in teaching, who may leave the labor force and then return after some time interval. Furthermore, the returning teachers represent a considerable source of supply, and variables affecting the decision to reenter teaching are many. The relative wage of teachers is a factor in the decision process, as is the availability of other jobs. There exists some data to confirm the belief that during prosperous times, more teachers seek non-teaching jobs.[8] The percent of college graduates (prepared to teach) entering teaching the year after graduation appears to be lower in periods when the economy is in a state of expansion. Contrariwise, during periods of slow economic growth and high unemployment, the percent entering immediate teaching is higher. Over the past 15 years, this percent has ranged between 74 and 64 percent, with a much higher percent of elementary teachers entering immediate employment as teachers after graduation (about 80 percent) than secondary teacher graduates (about 65 percent).

Table 3

Estimated New Demand for Certificated Classroom Teachers
in U.S. Public and Non-Public Schools, 1965 to 1982

Year (Fall)	New Demand Filled by New College Graduates (1)	New Demand Filled by Experienced Returnees (2)	Total New Demand (3)	For Enrollment Growth (4)	For Pupil-Teacher Ratio Changes (5)	For Teacher Turnover (6)	Total Teacher Demand (7)
1965	156,743	52,247	208,990	29,832	38,303	140,855	1,950,319
1966	172,309	57,436	229,745	39,811	43,108	146,826	2,032,238
1967	156,068	52,022	208,090	30,180	24,771	153,139	2,087,189
1968	173,668	57,889	231,557	42,285	31,857	157,415	2,161,331
1969	181,808	60,603	242,411	31,944	46,561	163,906	2,240,836
1970	148,000	57,000	205,000	17,000	18,000	170,000	2,275,000
1971	128,600	42,400	171,000	—	-3,000	174,000	2,275,000
1972	152,700	51,300	204,000	-10,000	41,000	173,000	2,308,000
1973	137,200	45,800	183,000	-20,000	27,000	176,000	2,315,000
1974	133,500	44,500	178,000	-19,000	21,000	176,000	2,317,000
1975	132,700	44,300	177,000	-21,000	21,000	177,000	2,317,000
1976	136,800	45,200	181,000	-23,000	27,000	177,000	2,321,000
1977	119,300	39,700	159,000	-35,000	15,000	177,000	2,302,000
1978	114,000	38,000	152,000	-44,000	20,000	176,000	2,279,000
1979	111,000	27,000	148,000	-43,000	17,000	174,000	2,252,000
1980	122,200	40,800	163,000	-31,000	20,000	172,000	2,242,000
1981	124,500	41,500	166,000	-22,000	16,000	172,000	2,236,000
1982	128,300	42,700	171,000	-11,000	11,000	171,000	2,236,000

Sources: *Projections of Education Statistics, op. cit.*, p. 67 and A. H. Padilla

Notes: Columns (1) and (2) comprise column (3). Also columns (4), (5) (6) add up to (3). Column (7) represents *total* demand, including column (3).

NATIONAL NEW SUPPLY

As in the case of new demand, the new supply of teachers can be divided into three parts:

1) former teachers who wish to teach again;
2) teacher education graduates of previous years who wish to teach for the first time; and
3) new graduates of teacher education programs.

As previously mentioned, experienced returnees are a large source of supply, but quantification of the existing stock is difficult. Nonetheless, to overlook their importance would be tantamount to understating the existing numbers. The same applies to the supply of graduates of previous years who wish to teach for the first time. The new graduates of teacher education programs constitute the one component of new supply which is readily identifiable.

Table 4 shows projections of earned bachelor's degrees (total and in teaching areas) in U.S. colleges and universities. According to projections, about 6 percent more bachelor's degrees will be conferred in 1982 than were conferred in 1972.[9] A similar increase, *ceteris paribus,* would be expected to occur in the number of total college graduates prepared to teach elementary and secondary students. In the past, about one-third[10] of all (bachelor's) college graduates have been prepared to teach, although not all entered the profession directly, for various reasons. As noted earlier in this paper, however, the labor market does provide feedback to students and it would be unrealistic to expect continuation of the trends of the 1960's. (Table 1 demonstrates this point, as the number of bachelor's degrees conferred in teaching areas *declined* between 1972 and 1973. Also, this decline occurred while the number of other bachelor's degrees conferred increased.)

Table 4 also depicts a projected 25 percent decline in the number of bachelor's graduates in teaching areas between 1972 and 1982 (i.e., from 333,705 to 250,000). This assumes that the proportion of all bachelor's degrees that are in the teaching areas will decline from the current one-third to one-fourth by 1982, which is consistent not only with current trends or economic theory, but also with the latest USOE projections.[11]

SUPPLY AND DEMAND COMPARISONS

Comparison of the new demand to be filled with new college graduates with the supply of new graduates prepared to teach for the ensuing years reveals an oversupply of graduates (see Figure 3). Even when the new graduates are adjusted to account for those who go on for graduate work, deliberately choose nonteaching jobs, or become full time homemakers, there is still an oversupply of teachers. The excess supply conditions are expected to continue during the 1970's, but are projected to diminish somewhat by the early 1980's, *ceteris paribus*

These findings are consistent with national surveys. Demand and supply adjusted for graduates who do not choose teaching are roughly in

Table 4

Total U.S. Bachelor Degree Output, and Bachelor's Degrees in Teaching Areas, 1972 to 1982

Year	Total Bachelor's Degrees[1]	Bachelor's Degrees in Teaching Areas Total[2]	Elementary Teaching	Secondary Teaching
1972	941,000	333,705	123,249	196,265
1973	958,000	322,847	116,462	192,548
1974	950,000	320,000	115,000	189,000
1975	936,000	290,000	104,000	171,000
1976	958,000	294,000	106,000	173,000
1977	973,000	295,000	106,000	174,000
1978	990,000	297,000	107,000	175,000
1979	997,000	289,000	104,000	170,000
1980	1,005,000	271,000	98,000	160,000
1981	1,009,000	272,000	98,000	160,000
1982	999,000	250,000	90,000	147,000

(1) This column is not entirely comparable to bachelor's degrees figures of Table 1. For discussion of some of the differences, see *Digest of Educational Statistics,* HEW, Washington, D.C. (1973 Edition)

(2) Includes persons prepared as guidance counselors, psychologists and other supportive staff positions, as well as elementary and secondary teachers.

Sources: *Projections of Educational Statistics to 1982-83, op. cit.,* p. 46
Research on Teacher Supply and Demand in Public Schools 1973, op. cit., p. 9 and A. H. Padilla

balance for the late 1960's when most surveys indicated alleviation of the teacher "shortage."

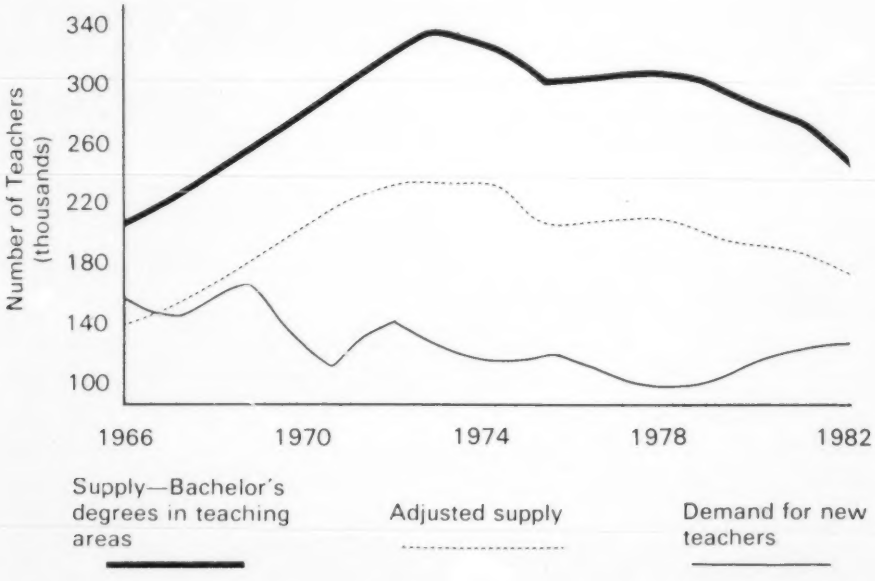
It should be noted that the reduction of the demand-supply imbalance in the early 1980's will be due mainly to student response to market signals. Put differently, if these imbalances had been projected in 1971, the resulting surpluses would have been much greater, since projections of supply of new graduates were much higher just three years ago.

SUPPLY AND DEMAND IN SPECIFIC AREAS

The demand and supply situation for most areas of instruction shows a relief of past shortages. For certain areas, however, shortages still exist at the wages being paid currently. The annual new demand in certain fields, as measured by the number of new teachers employed, exceeded

Figure 3

Demand and Supply of Teachers in the U.S., 1966-1982
New



Sources: U.S. Office of Education, *Projections of Educational Statistics to 1982-83*, pp. 46, 67. National Education Association, *Research on Teacher Supply and Demand in Public Schools, 1973*, p. 9. (actual through 1972)

the annual supply of new teachers education graduates. This means, then, that if even 100 percent of the *new* graduates had been willing to enter teaching, the demand would not have been met by new graduates *alone*. Some of this demand of course is met by re-entrants to the teaching profession. These specific shortages, however, are not likely to persist in the future, particularly if turnover rates decrease, as they tend to do during slow economic years. Lower turnover rates would lead to lower replacement demand, which in turn would alleviate these specific areas where shortages now exist.

According to a recent report by the Comptroller General[12], only three teaching areas are in strong demand currently: special education, industrial arts, and "trade, industrial, vocational, technical" education. About 80 to 85 percent of state education departments responding to a survey stated that there were vacancies in the special education area. Similarly, 73 percent indicated the existence of unfilled jobs in trade education and 56 percent responded that vacancies existed in industrial arts.

Moreover, National Education Association (NEA) data are consistent with the preceding.[13] The NEA lists mathematics, "trade, industrial, vocational technical education," natural and physical sciences, and industrial arts in "low supply." Somewhat surprisingly, however, they list special education in "near balance," which is contrary to all other data sources in this area.

Chapter II

THE SOUTHERN REGION

ENROLLMENT

Only one of the 14 states in the SREB region, Florida, has shown a significant increase in its elementary and secondary enrollment since 1970. The remaining 13 states have either shown relatively stable or decreasing enrollments in that time period.

As the data in Table 5 suggest, with the *possible* exception of Florida, most of the discussion about decreasing demand for teachers nationally applies also to the SREB region. For the majority of the states in the region, enrollment in 1973 was either lower than or roughly comparable to (within 15 percent) the enrollment in 1959. The steep rise in the region's enrollment in the 1960's, followed by the beginning of a decline in the early 1970's, is similar to the national patterns shown earlier in Figure 1. Assuming that the region's *share* of national enrollments remains stable[14], enrollment in the South in 1982 is expected to be 12,400,000, or about 10 percent lower than in 1973.

How the 12,400,000 pupils projected for 1982 will be distributed among the 14 states is uncertain. States like Florida, Maryland, Texas and Virginia will probably have a larger share of total enrollment in 1982 than currently if trends continue. Contrariwise, Alabama, Mississippi, and West Virginia will likely have a smaller share of the total. With detailed information about births, deaths and migration patterns for each state, enrollment projections can be constructed for each state.

CLASSROOM TEACHERS AND HIGH SCHOOL GRADUATES

In 1973, the SREB states had about one-third of all the (FTE) classroom teachers in the nation and about the same proportion of the nation's students. There were 620,824 FTE classroom teachers in 1973 in the region (see Table 6). The student-teacher ratio in the South (22.2) was nearly equal that of the U.S. (22.1) for 1973. The variation among states with regard to the ratio was slight.

Table 6 also shows that the SREB states had about 28 percent of the nation's high school graduates of 1972-73, but these states had over 30 percent of the U.S. enrollment. This raises a serious question about the attrition rates of the public school systems in the South. Whereas 77 percent of the nation's 9th graders finished high school four years later, only 70 percent of those in the South did (Table 7).

Although the average per capita personal income of the SREB states is about 85 percent of the nation's, the Southern region's expenditure

Table 5

Enrollment in Public Elementary and Secondary Day Schools, 1959-60 to 1973-74

State	1959-60	1970-71	1973-74	% Change 1970-71 to 1973-74	% Change 1959-60 to 1973-74
Alabama	787,269	803,205	770,739	-4.3%	-2.1%
Arkansas	424,206	463,320	450,114	-2.8	6.1
Florida	993,496	1,427,896	1,537,952	7.7	54.8
Georgia	949,099	1,098,901	1,085,881	-1.2	14.4
Kentucky	631,412	717,205	709,764	-1.0	12.4
Louisiana	693,202	842,365	842,152	0	21.5
Maryland	596,375	916,244	911,097	-0.6	52.8
Mississippi	566,421	534,395	519,786	-2.7	-8.2
North Carolina	1,105,412	1,192,187	1,173,415	-1.6	6.2
South Carolina	610,099	637,800	626,914	-1.7	2.8
Tennessee	810,300	899,893	902,704	0.3	11.4
Texas	2,068,158	2,839,900	2,782,151	-2.0	34.5
Virginia	841,574	1,078,754	1,085,295	0.6	29.0
West Virginia	460,429	399,531	409,184	2.4	-11.1
Total SREB States	11,537,452	13,853,596	13,807,148	-0.3	19.7
Total U.S.	36,086,771	45,909,088	45,499,000	-0.9	26.1
Ratio Total SREB/Total U.S.	.320	.302	.303		

Sources: *Statistics of State School Systems, 1967-68*, HEW, USOE, Washington, D.C., Dec. 1970, and *Fall 1973 Statistics of Public Schools, op. cit.*

Table 6

Elementary and Secondary Enrollment, High School Graduates, and FTE Classroom Teachers, for SREB States and the United States, Fall 1973

State	Total Enrollment	H.S. Grads 1972-73	Classroom Teachers, FTE
Alabama	770,739	44,441	34,234
Arkansas	450,114	25,705	17,983
Florida	1,537,952	81,773	67,532
Georgia	1,085,881	57,755	45,375
Kentucky	709,764	40,607	31,412
Louisiana	842,152	45,704	41,884
Maryland	911,097	52,813	42,793
Mississippi	519,786	26,128	23,472
North Carolina	1,173,415	69,322	51,277
South Carolina	626,914	36,150	26,960
Tennessee	902,704	52,115	37,150
Texas	2,782,151	153,529	130,517
Virginia	1,085,295	62,589	51,761
West Virginia	409,184	24,541	18,474
Total SREB States	13,807,148	773,172	620,824
SREB as % of U.S. Total	30.3	28.3	30.1

Source: *Fall 1973 Statistics of Public Schools, Advance Report*, HEW, (OE) 74-11408, Washington, D.C., 1974, p. 6.

per pupil is only 79 percent of the nation's. Table 8 shows that, as a whole, the SREB states averaged $884 per pupil as compared with the national average of $1,120 for 1973. Some states in the region averaged as little as 65 percent of the national support level. Only one, Maryland, spent more per pupil than the national average. As discussed above, the South does not have an admirable record in the retention of its students. This could be directly related to the level of support

Similarly, teacher salaries in the SREB states are low relative to the nation's, although they are in line with the ratio of the South's personal income to the nation's personal income.

The ratio of Southern educational expenditures per pupil to national levels has not changed appreciably in a decade and a half. Whereas the SREB states spent 77 percent of the national average in 1959, they had moved only to 79 percent of the nation's average by 1973. Eight of the 14 states increased their expenditures per pupil from 1967 to 1973 by less than the 70 percent national average increase for that period.

DEMAND FOR TEACHERS

Declining enrollments in the region through 1982 will be translated into a declining demand for teachers in the SREB states unless there are offsetting factors.

Table 9 presents projections of teacher demand (total number of teachers likely to be employed in a given year) from 1974 to 1982. These were made under two assumptions about the student-teacher ratio: (A) that the ratio would remain at its 1973 level of approximately 22 pupils per FTE teacher; and (B) that the ratio would decline gradually to reach a level of 18 pupils per FTE teacher by 1982, or approximately a 20 percent decline in eight years.

Under the first assumption, total teacher demand declines by nearly nine percent over this time period. This is the most likely outcome. (Recall that there will still be the necessity of replacing teachers who retire or otherwise leave the profession over this period.) On the other hand, if the student-teacher ratio declines by 20 percent, total demand would rise by 12 percent by 1982 over 1974 levels. Lest this percentage increase seem

Table 7

Public High School Graduates as a Percentage of 9th Grade Enrollments Four Years Earlier, for SREB States and the Nation, 1971-72

	1971-72 H.S. Graduates as Percent of 1968 9th Graders
Alabama	65%
Arkansas	69
Florida	92
Georgia	65
Kentucky	70
Louisiana	67
Maryland	80
Mississippi	58
North Carolina	69
South Carolina	69
Tennessee	72
Texas	70
Virginia	76
West Virginia	72
SREB TOTAL	70
U.S. TOTAL	77

Source: *A Fact Book on Higher Education*, Enrollment Data, First Issue 1974, A.C.E., Washington, D.C. 1974, p. 74.50

Table 8

Current Expenditures Per Pupil
(Average Daily Attendance) in Public Elementary
and Secondary Schools, for SREB States and the U.S.
1959-1960 to 1973-74

	1959-60*	1967-68*	1973-74*	% Change 1967-68 to 1973-74
Alabama	$ 241	$ 442	$ 716	62.0%
Arkansas	225	497	773	55.5
Florida	317	574	1,041	81.4
Georgia	253	521	869	66.8
Kentucky	233	473	727	53.7
Louisiana	371	578	978	69.2
Maryland	393	719	1,168	62.4
Mississippi	206	369	787	113.3
North Carolina	237	478	900	88.3
South Carolina	220	466	856	83.7
Tennessee	238	461	759	64.6
Texas	332	547	809	47.9
Virginia	274	559	983	75.8
West Virginia	258	509	871	71.1
TOTAL SREB STATES	$ 290	$ 519	$ 884	70.3
TOTAL U.S.	$ 375	$ 658	$ 1,120	70.2

*Unadjusted dollars

Note: The Consumer Price Index rose about 35 percent between 1967 and 1973.

high, it should be noted in contrast that between 1964 and 1972 total teacher demand increased nearly 25 percent.[15]

As previously discussed, student-teacher ratios nationally are not likely to decrease significantly in the foreseeable future. The average regional student-teacher ratio equals the national one, and this history of the Southern states' efforts in financing public education does not indicate that Alternate B is the more likely one, despite lower high school retention rates, and other "need" factors. This, coupled with expected enrollment declines, leads to the obvious conclusion that the demand for teachers will be weak in the South.

OUTPUT OF TEACHER GRADUATES

Unfortunately, the level of detail available for the nation respecting supply and demand data is much greater than that of the SREB region as a whole. Thus, this rather superficial study will not be able to address the

question of supply and demand for the region to the detail of Chapter I. (Individual state studies, however, can, and should, be conducted.)

Nonetheless, there are some data on the production of college graduates prepared to teach which may enable one to draw some meaningful conclusions about the Southern teaching market, current and future.

Table 10 provides trend information about bachelor's and master's degrees in the teaching area for the 14 SREB states. Since 1969 annual degree output has increased by about 10,500 or 14.7 percent for the region and by 12.2 percent for the nation. Thus, degree production of those prepared to teach has increased at a slightly faster rate in the South than in the rest of the nation.

The largest producer of the teacher education degrees in the SREB area is Texas, with 16,592 in 1973, or about 30 percent of *all* bachelor's and master's degrees awarded in that state.

Arkansas, Kentucky, and Mississippi are relatively large producers of teacher education degrees, compared to all bachelor's and master's degrees awarded in those states. For these three states, about 40 percent of all bachelor's and master's degrees are of the teacher education type.[16]

Between 1969 and 1973 two of the 14 states showed decreases in the number of degrees awarded to students prepared to teach. However, seven of the 14 had a percentage increase significantly higher than that of the nation (i.e., 18 percent increase or better). North Carolina, with a 26 percent increase in teacher education degree output between 1969

Table 9

Alternate Projections of Total FTE Classroom Teacher Demand for the SREB Region, 1974 to 1982

	A	B
1974	612,600	612,600
1975	608,100	627,900
1976	603,600	638,100
1977	594,600	640,800
1978	581,100	641,800
1979	572,100	648,000
1980	563,100	654,500
1981	558,600	670,300
1982	558,600	688,900
Percentage Change 1974-1982	-8.8%	12.5%

Note: A) Alternate A assumes a constant student-teacher ratio of 22.2 throughout.
B) Alternate B assumes a gradually declining ratio, reaching a level of 18 pupils per teacher in 1982.

and 1973, had the largest increase, and was followed closely by Florida, South Carolina, and West Virginia.

Given enrollment changes shown in Table 5, it would appear that Florida, (and perhaps Virginia) could absorb continued increases, of a *moderate* kind, in the number of graduates prepared to teach. This would be especially true for certain teaching areas in strong demand. (But even teacher education graduates in these states are surely not experiencing a labor market bonanza.) Contrariwise, states with declining enrollments since 1970 such as North Carolina, South Carolina, Alabama, Mississippi, West Virginia, Arkansas and others can ill afford to continue producing graduates prepared to teach, at historical rates. Even Maryland and Texas, which had large increases in K-12 enrollment during the 1960's, would be well advised to slow their production rates due to their recent decreases in enrollments.

But the foregoing needs amplification. The demand for and supply of teachers are subject to many market forces. If the salaries of teachers in a given state increase relative to other salaries, the supply of teachers in that state will increase accordingly. This is becuase the new economic stimuli may be sufficient to entice teachers not in the profession to enter the market. This is not a trivial point, and quite probably also accounts for interstate migration of teachers. That is, if Virginia's salary schedule for teachers is higher than North Carolina's, it would be likely that some of the more mobile North Carolina graduates would seek work in Virginia. North Carolina's supply would diminish and Virginia's would rise.

The demand for teachers can also be drastically affected through new policies requiring additional teachers. Examples are the lowering of pupil-teacher ratios, new programs in special education, or new programs in pre-primary (kindergarten level) education. Thus, states need to be aware of the possible effects of different policies.[17]

Table 10

College Students Receiving Bachelor's and Master's Degrees and Preparation to Teach in Elementary and Secondary Schools, 1969 and 1973, SREB States

State	1969	1973	% Change 1969-1973
Alabama	4,345	4,452	2.5%
Arkansas	3,294	3,134	-4.9
Florida	5,797	7,175	23.8
Georgia	4,523	5,301	17.2
Kentucky	5,901	5,253	-11.0
Louisiana	4,152	4,942	19.0
Maryland	3,346	3,925	17.3
Mississippi	4,119	4,727	14.8
North Carolina	6,602	8,298	25.7
South Carolina	2,554	3,161	23.8
Tennessee	5,792	6,411	10.7
Texas	13,842	16,592	19.9
Virginia	3,947	4,654	17.9
West Virginia	2,886	3,521	22.0
Total SREB States	71,100	81,546	14.7
Total U.S.	256,372	287,683	12.2

Source *Research on Teacher Supply and Demand in Public Schools, 1973, op. cit.*, Table 4, p. 11.

Chapter III

CONCLUSIONS

In conclusion, if college students in the South continue to choose teacher education as a major to the extent that they have done to date, many are bound to be disappointed if they seek employment as teachers. Demand for new teachers, even when replacement needs are taken into account, will not absorb the supply that is currently projected.

There is the possibility, however, that students themselves may prevent or reduce this projected excess supply. It has been shown here and elsewhere that students do respond, with a lag, to stimuli from the labor market.[18] To a limited degree this has already occurred nationally, and even to some extent in the South. Degrees awarded in teaching areas have declined recently, while the number of other degrees has continued to increase.

There are several policy directions that seem appropriate in light of present trends in the teaching market. Greater efforts must be made to transmit information to college students on the manpower outlook in the teaching profession. Occupational outlook data that do not reach students are of little value in career planning.[19]

The concept of "career alternatives," which would prepare students for two or more career options, should be studied by institutions of higher education. For instance, students majoring in secondary mathematics education could be encouraged to pursue options in statistics and/or computer science. Or English education majors could develop concentrations in journalism or remedial reading. Or chemistry education majors could minor in chemical engineering.

There is a need for dissemination of information from the labor market, as well as of manpower and occupational data. The experience of yesterday's graduates on placement, beginning salaries, location of first job, and satisfaction with employment is of great value in guiding career choices of today's students. Yet very little such current information is collected or made available to students and faculty.

Another very important way to facilitate transmission of signals from the market to the suppliers of labor would be through the implementation of salary differentials in the teaching profession. That is, persons with teaching degrees in areas where there are shortages would be paid at a higher rate than those with degrees in areas of excess supply. Surprisingly this proposal is not often presented.[20] But yet there is probably no better way for students in teacher preparatory programs (and for teachers already prepared) to obtain signals from the market.

Salary schedules are not equalized among faculty in higher education. For example, professors in economics generally earn more than, say, linguistics faculty members. This differential reflects supply and demand conditions.[21] If teachers of special education are badly needed, then

salaries for persons in this specialty should rise relative to the salaries of others. This would inform students that special education (and whatever else) is in strong demand and that other fields are not. Undecided students, at crucial junctures in their career plans, would then have another piece of information on which to base decisions.

From the employer's viewpoint, a period of excess supply of teachers presents an opportunity to upgrade the quality of schools. It is much easier to obtain teachers to lower the pupil teacher ratios and to add preprimary programs, and to institute special and remedial programs during a period when there are many available teachers trained to do the job than during a time of scarcity. It is also more feasible to hire the best qualified applicants for teaching positions when there are ample applicants.

Finally, upgrading the quality of school systems during a period of oversupply of teachers also suggests closer screening of applicants to college programs that prepare teachers. This may, however, prove to be a problem for small institutions which exist primarily to educate teachers —further driving down already declining enrollments.

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Footnotes

1. Harris, S.E., *The Market for College Graduates,* Greenwood Press, Connecticut, 1949, pp. 64, 73.
2. *Ibid.,* Introduction to the 1970 edition.
3. See *Teacher Supply and Demand in Public Schools, 1971,* Research Division, National Education Association, Washington, D.C., 1972, p. 7.
4. *Research on Teacher Supply and Demand in Public Schools, 1973,* National Education Association, Washington, D.C., 1973, p. 9.
5. *Ibid.*
6. In 1970, U.S.O.E. projected that over 51 million would be enrolled in K-12 by 1980. This was revised downward in 1973 to 46 million. See *Projections of Educational Statistics to 1979-80,* and *Projections of Educational Statistics to 1982-83,* U.S.O.E., HEW, Washington, D.C.
7. For an in-depth discussion of female labor force participation, see Jacob Mincer's "Labor Force Participation of Married Women," in *Aspects of Labor Economics,* Princeton University Press, 1962, pp. 63-97.
8. *Teacher Supply and Demand in Public Schools, 1970,* NEA, Research Report 1970-R-14, p. 21.
9. This USOE projection is significantly lower than those USOE made just two years ago. See *Projections of Educational Statistics to 1979-80* for the earlier projections.
10. This proportion increased from about 27 percent in 1950 to 37 percent in 1966, and it currently stands at about 33 percent. Further declines are incorporated by the author in the projections of Table 4.
11. USOE projects a significant decrease in the percentage share of total degrees that education comprises between 1972 and 1982.
12. *Supply and Demand Conditions for Teachers and Implications for Federal Programs,* Comptroller General of the U.S., Washington, D.C., March 6, 1974, p. 19.
13. See *Research on Teacher Supply and Demand in Public Schools 1973, op. cit.,* pp. 32, 33.
14. That is, that the ratio of SREB enrollment to U.S. enrollment will remain at its 1973 value of approximately .303. Earlier values were: .324 in 1900, .322 in 1930, .320 in 1960, and .302 in 1970.

15. Also, between 1964 and 1972, pupil-teacher ratios in public schools decreased by about 12 percent. This decrease was largely possible due to the relative prosperity which existed during the mid and late 1960's.

16. These percentages are approximate and are derived from data from Table 10 and the *Fact Book on Higher Education in the South,* SREB, Atlanta, Georgia.

17. See Freeman, R.B. and Breneman, D., *Forecasting the Ph.D. Labor Market: Pitfalls for Policy,* National Board on Graduate Education, April 1974, for further discussion on this topic.

18. Freeman, R.B., The Market for College-Trained Manpower, Harvard University Press, Cambridge, Massachusetts, 1971, pp. 194 ff.

19. Ways in which the campus career counseling function can be made more meaningful to students are discussed in *Integrating Career Development on the Campus, Report of a Workshop,* Southern Regional Education Board, Atlanta, 1974. See also Freeman, R.B. *The Market for College Trained Manpower, op. cit.;* Padilla, A. H. *Survey of 1972 College Graduates,* General Administration, The University of North Carolina, Chapel Hill, April 1974. Preliminary data from the National Longitudinal Surveys point up some communication problems of college career counseling. These studies indicate that faculty and experience on jobs are heavily relied upon by students for career information.

20. See for example *Supply and Demand Conditions for Teachers and Implications for Federal Programs, op. cit.,* pp. 22 ff.

21. *American Science Manpower 1970, A Report of the National Register of Scientific and Technical Personnel.* NSF, Washington, D.C., 1971, p. 85.

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